

June 5, 1923.

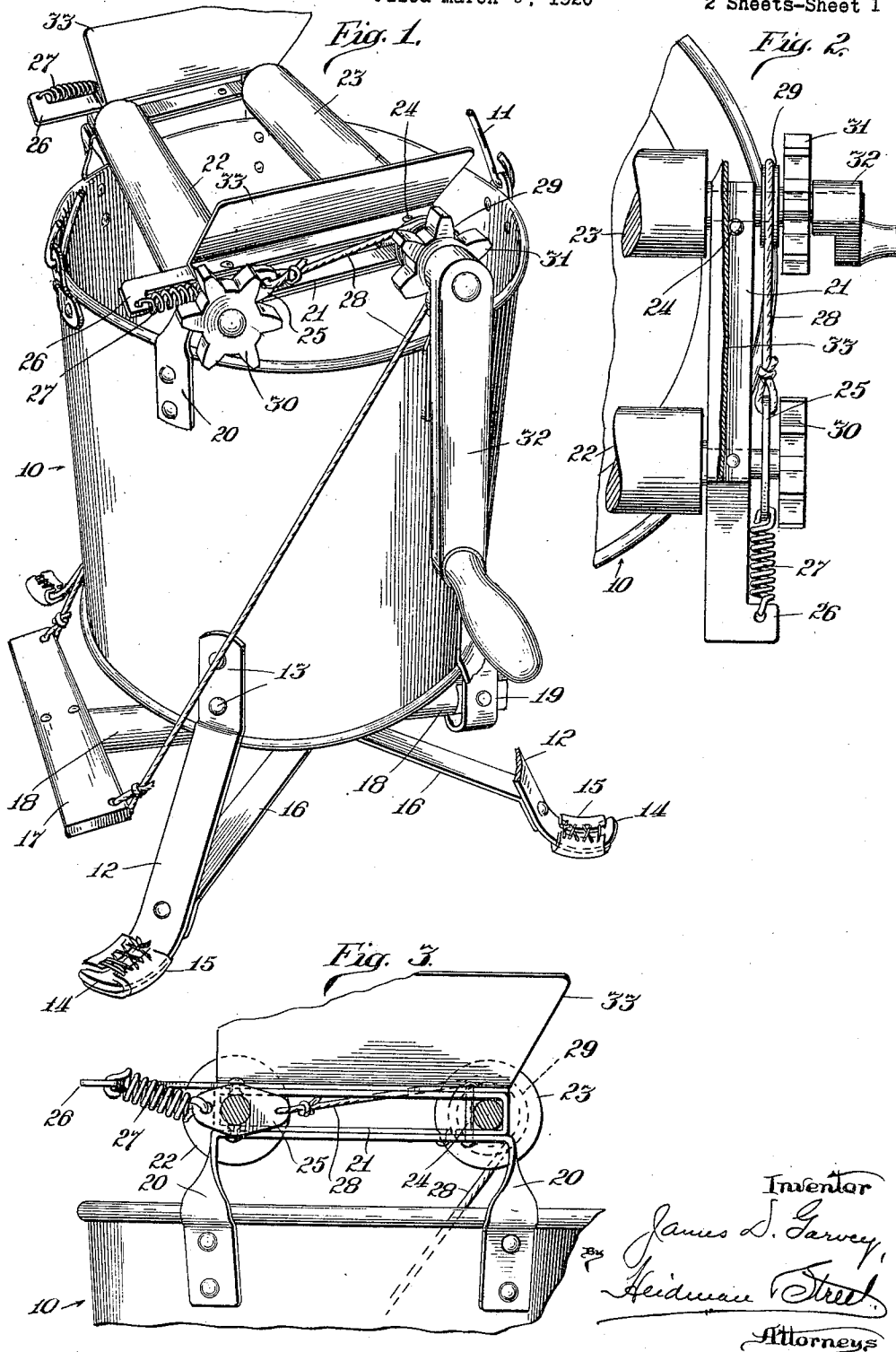
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MOP WRINGER

Filed March 5, 1920

2 Sheets-Sheet 1



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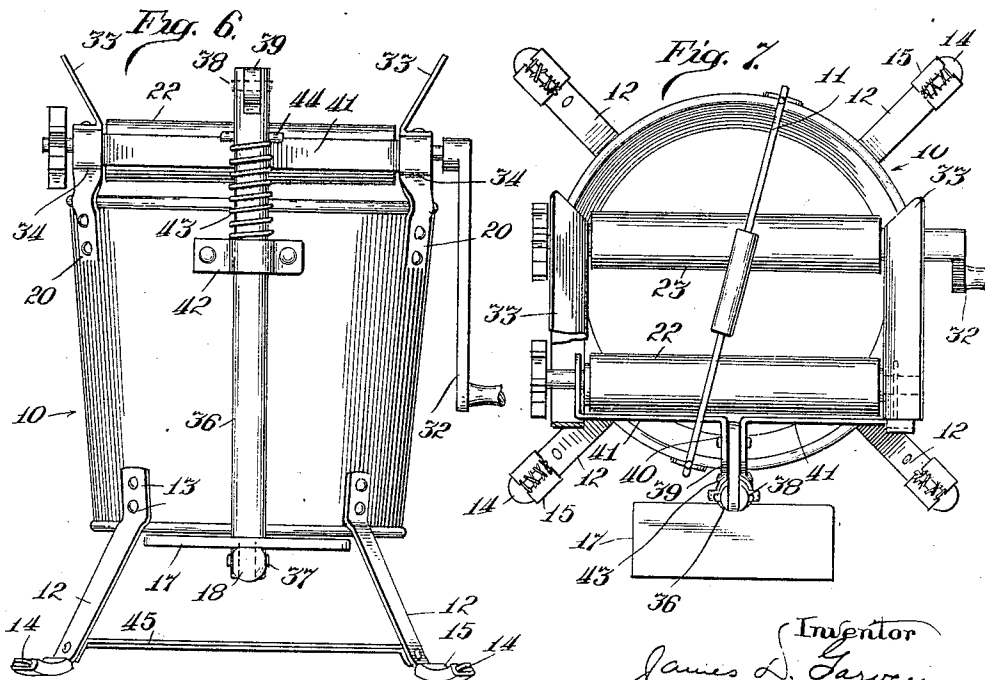
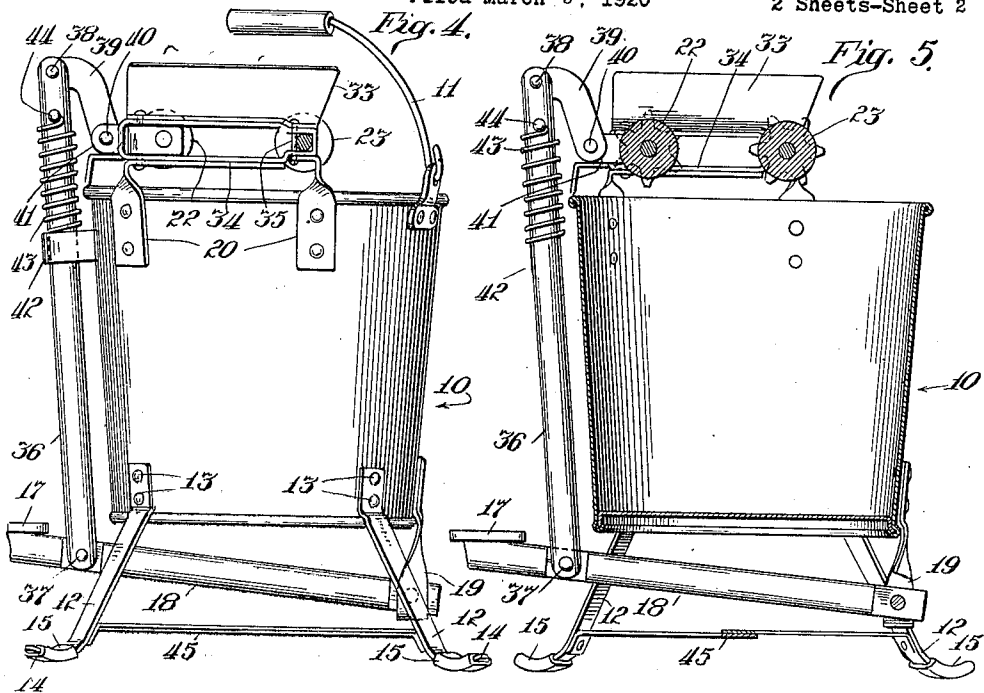
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

JAMES D. GARVEY, OF CHICAGO, ILLINOIS.

MOP WRINGER.

Application filed March 5, 1920. Serial No. 363,410.

To all whom it may concern:

Be it known that I, JAMES D. GARVEY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mop Wringers, of which the following is a description, reference being had to the accompanying drawings, which form a part of my specification.

My invention relates to wringers more especially intended for the wringing of floor-mops and the like; the invention having for its object the provision of a construction whereby ample pressure may be applied to the strands of the mop, or other article from which the water is to be wrung, while at the same time enabling the operator to easily pass the strands of the mop between the rollers of the wringer portion of the pail without necessitating a severe upward pull on the mop as is the case with certain constructions of mop wringers at present in use.

With my improved construction, the user is enabled to apply the requisite pressure on the strands of the mop through the manipulation of foot-actuated means and while the strands of the mop are firmly pressed between the rollers of the wringer, the operator may cause a positive operation of the rollers through the operation of a suitable hand-crank whereby both rollers will be given positive actuation and the mop-strands positively fed through the wringer to cause a thorough wringing of the mop or other article.

My invention also contemplates means whereby the water wrung from the mop or other article will be prevented from splashing out or passing along the rollers to the pail exterior; said means also ensuring a proper positioning of the mop during wringing operation; the invention also contemplating means whereby the wringer-rolls will be automatically forced into separated relation upon release of the foot-operated mechanism; while at the same time a pail is provided which is not easily tilted and which will not mar the floor during its use.

The objects and advantages of my invention will be readily comprehended from the following detailed description of the drawings, wherein:—

Figure 1 is a perspective view of my

improved mop wringer with portions of the bail or handle broken away.

Figure 2 is a detail plan view of the roller-operating mechanism as disclosed on the near or crank side of the pail as shown in Figure 1.

Figure 3 is a detail view in side elevation of the mechanism shown in Figure 2, with the crank and sprocket ends of the roller journals broken away.

Figure 4 is a side elevation of a modified form of my invention.

Figure 5 is a vertical sectional view of the construction shown in Figure 4.

Figure 6 is a side elevation of the construction shown in Figures 4 and 5; the view being taken substantially at right angles to Figure 4 and looking toward the foot-operated mechanism.

Figure 7 is a top plan view of the construction shown in Figures 4, 5 and 6.

In the particular exemplification of the invention, as disclosed in Figures 1 to 3, it comprises a suitable sized fluid-holding vessel or pail 10, provided with a bail, a portion whereof is shown at 11 in Figure 1, of such construction and so secured as not to interfere with the wringer mechanism later to be described. The bottom of the pail is preferably provided with four standards or supports disposed at equi-distances apart about the lower part of the vessel as shown at 12. Each support 12 comprises a strip of substantially heavy sheet metal, preferably galvanized, having a portion arranged flush with the side of the vessel 10 and riveted thereto as shown at 13; while the unattached portion extends outwardly away from the bottom of the pail or vessel and terminates in a horizontally disposed foot 14 which is curved slightly upward. I prefer to cover the feet 14 with a suitable fabric or rubber as at 15, which is maintained in place by lacing as shown, thus permitting the covering of rubber to be readily removed when it becomes worn.

The four supports or standards 12 are braced by the metallic strips or braces 16 riveted at one end to the lower part of the support and extending upwardly toward the bottom of the vessel or pail 10 to which the other end is suitably secured by rivets or otherwise.

A very firm and rigid support for the pail is thus provided; the supports extending

outwardly sufficient to prevent any possibility of tipping; while at the same time the rubber covered feet will prevent marring of polished or painted floors.

5 By supporting the pail on standards or supports, the bottom of the pail is maintained away from the floor and the possibility of injuring a painted or polished floor, by reason of hot water in the vessel, will be
10 obviated. At the same time, the supports hold the vessel at an elevation sufficient to permit operation of the foot-pedal 17 which is disposed slightly beyond one side of the vessel as shown in Figure 1 and has its lever
15 portion 18 extending centrally beneath the pail to the opposite side where it is pivotally mounted in a bracket or loop secured to bottom of the vessel, as shown at 19 in Figure 1; one of the supports or standards 12 being
20 shown broken away to disclose the pivot or fulcrum point of the lever 18.

At diametrically opposite points at the top of the vessel 10, I provide brackets 20, which are preferably riveted to the sides of the
25 pail; the brackets comprising flat strips of metal with the ends twisted so as to lie flush with the pail-sides, while the intermediate portion is disposed a slight distance above the top of the pail and extends in a horizontal plane. To this intermediate portion,
30 I secure a rectangular loop portion 21, which is shown riveted in place; the loop portion providing a bearing for the trunnions of the two rollers 22 and 23.

35 The bracket 20 at the opposite side of the pail or vessel is identical in construction and also provided with a similar rectangular loop-portion 21 to provide suitable bearing for the adjacent trunnions or ends of the
40 two rollers 22 and 23. The roller 23 is rotatably mounted in the loop members 21, but held against movement longitudinally of the loop members in any suitable manner, as for example by the pin 24, see Figure 3. The
45 pin may, if desired, be made removable so as to enable the removal of the roller 23 for repairs or replacement. The roller 22 is intended to move lengthwise of the loop members 21 and therefore has the ends of its
50 trunnions which extend to the outside of the loop members 21, provided with suitable clips or plates 25 loosely mounted thereon to permit rotation of the trunnions in the plates or clips 25. The top part of each loop
55 member 21 is provided with an extension 26 disposed horizontally, with the ends of the extensions shown curved outwardly. One end of a suitable spring 27 is secured to the outwardly curved end of each extension 26,
60 while the other end of each spring 27 is secured to the adjacent end of the plate or clip 25. The springs 27 maintain the roller 22 at the spring ends of the members 21, as shown in Figures 1, 2 and 3, namely in separated relation with the roller 23; the springs

27 causing the roller 22 to be returned to the normal position shown in the drawings, upon release of the foot-pedal.

The opposite ends of the plates or clips 25 each have a cord or cable 28 attached there-
70 to; the cords or cables 28 being disposed about a grooved roller 29 secured on the extended trunnions of the roller 23, see Figure 2; while the opposite ends of the cables 28 are secured to the foot-pedal 17. It is clearly
75 apparent from the construction shown and described that when the foot-pedal 17 is depressed, a pull will be exerted on the cables or cords 28 whereby the roller 22 is forced against the action of springs 27, toward the
80 roller 23. Preferably one end or trunnion of each roller 22 and 23 is provided with a sprocket-wheel 30 and 31, respectively, adapted to be brought into intermeshing relation when the roller 22 is brought into
85 close relation with roller 23 through the action of the pull exerted by cords 28 when foot-pedal 17 is depressed. The trunnion of roller 23 at a point beyond or to the outside of sprocket 31 is provided with a crank or
90 handle 32 secured thereto to enable rotation of the roller 23 and by reason of the intermeshing relation of the sprockets 30 and 31 positive rotation will also be imparted to roller 22; it being understood, of course, that
95 the sprockets are so formed to permit contact between the main surfaces of the rollers. With this construction, a positive feeding of the mop strands through the wringer will be
100 had, without the necessity of exerting an upward pull on the mop; a positive wringing action being obtained without the exertion of power or force as is the case with certain types of mop wringers at present
105 in use.

The brackets 20 with the loop members 21 are preferably provided with the upwardly
disposed and slightly outwardly flared shields or guards 33, 33 extending through-
110 out the length of the loop members and on what may be termed the inner sides thereof; that is on the sides adjacent the main portion of the rollers 22 and 23. These guards will not only prevent the mop strands catch-
115 ing between the intermeshing sprockets 30 and 31, but will also prevent the water from flowing toward the ends of the rollers and beyond the sides of the pail.

In practice, the user inserts the mop-
strands, or cloth, between the separated
120 rollers 22 and 23, then depresses foot-lever 17, sufficiently to draw roller 22 into juxtaposition with roller 23, thereby inducing an intermeshing relation between sprockets 30 and 31 and while maintaining the rollers in
125 such juxtaposed relation, by keeping his foot on the foot-pedal 17, grasps crank or handle 32 and rotates the latter in clockwise direction, causing roller 23 to be likewise rotated, while roller 22 will be positively rotated but
130

in counter-clockwise direction, thereby inducing the mop-strands to be fed upwardly through the wringer.

In Figures 4 to 7, I show a modified form of my invention; with the vessel or pail 10 constructed substantially similar to that shown in the previous figures and as heretofore described; the sides of the vessel or pail, adjacent the top, being provided with similar brackets 20, on which are secured rectangular loop members 34, substantially similar to loop members 21, except that in this construction one end of each rectangular loop member 34 is shown slightly reduced where they receive the trunnions of the roller 23, which latter is held against movement longitudinally of the loop-members in any suitable manner as for example by the pin 35. The other roller 22, like in the previous construction, is intended to not only rotate in the loop-members 34 but to also slide lengthwise thereof. In this construction the foot-pedal 17 is secured to the lever 18 which is preferably disposed centrally beneath the pail or vessel 10, with its end pivotally secured in a bracket, as at 19, which may be similar in construction to that employed in Figure 1; the bracket being suitably secured to the lower end of the pail or vessel. The construction shown in Figures 4 to 7 comprises a rod 36 pivotally secured at its lower end at the point 37 to the lever 18, while the upper end is pivotally secured at 38 to a link 39 which latter is pivoted at 40 to a bracket 41. The bracket 41 extends to opposite sides of the pail 10, as shown in Figure 7, with the outer ends of the bracket 41 bent at an angle to the main portion and arranged to receive the trunnions of the roller 22; the ends of the brackets 41 being slidably arranged in the loop-members 34. The side of the pail 10 is provided with a bracket or loop 42 through which rod 36 slides; and this loop 42 also provides a seat for a coil spring 43 which is disposed about the rod 36, with the upper end of the spring bearing against a laterally disposed pin 44 secured in rod 36. With rod 36 slidingly held in position against the side of the pail or vessel 10, it is apparent that when foot-pedal 17 on lever 18 is depressed, the downward pull exerted by rod 36 on link 39 will force bracket 41 toward the opposite end of the loop members 34 and therefore cause the roller 22 to be brought into juxtaposition with roller 23.

The trunnions of the rollers 22 and 23, like those in the previously described construction, are each provided with the sprockets 30 and 31, respectively, adapted to have intermeshing relation when the rollers are brought together through the depression of foot-pedal 17 against the action of spring 43; it being understood, of course, that link 39 is of length commensurate with the distance that roller 22 is to move in the loop members.

With the spring 43 arranged as described, it is clearly evident that when pressure on foot-pedal 17 is withdrawn, rod 36 will be forced upwardly through the action of spring 43, causing link 39 to be moved upwardly into the position shown in Figure 4, thereby pulling bracket 41 with roller 22 toward the adjacent side of the pail. The trunnion of roller 23, like that shown in Figure 1, is provided with a hand-crank 32 whereby rotation is given to roller 23 and to roller 22 through the action of intermeshing sprockets 30 and 31.

Instead of employing the braces 16, shown in Figure 1, the supports or standards 12 of the pail or vessel may be provided with brace-rods 45 extending from support to support at a point preferably adjacent the lower ends of the supports, as shown in the drawings, thus not only ensuring a rigid bracing effect for the supports, but also providing sufficient space for the movement of the foot-pedal and lever.

I have shown the roller provided with sprockets merely at one end of each roller, but when desired both ends of the rollers may be provided with sprockets adapted to intermesh; and instead of employing a cable or cord 28, it is evident that a suitable chain may be employed to effect the same operation described; and other modifications may be made in certain details of construction without departing from the spirit of my invention.

What I claim is:—

A device of the character described, comprising a pail provided with bracket members secured to the sides thereof and disposed horizontally above the top, the horizontally disposed portion of each bracket being provided with a longitudinal slot, a pair of rollers, the trunnions whereof are rotatably mounted in the slots of said brackets, means whereby one roller is held against horizontal movement while the other roller is adapted to move lengthwise of said slots, means whereby said rollers are normally held in spaced relation, sprocket wheels secured to the trunnions of said rollers, to the outside of the bracket member, said sprockets being adapted to intermesh when said rollers are brought into juxtaposition, a foot-pedal operatively connected with the trunnions of the movably mounted roller, whereby the latter may be moved against the action of said second means and brought into juxtaposition with the other roller and the sprocket wheels of the two rollers brought into meshing relation, and a hand-crank secured to the trunnion of one of said rollers whereby both rollers may be positively rotated.

JAMES D. GARVEY.

Witnesses:

CHAS. T. DODSON,
GEORGE W. PRYOR.